Patent Office

12. A Inspection

11. 8802342

The Netherlands

19. NL

54. Device for visual information transfer

51. Int. Cl^5: GO9F 19/12

71. Applicant: Carel Christiaan van Helsdingen in Naarden

74. Attorney: Ir C.H.J. Timmers c.s
EXTER PATENT AND TRADEMARK OFFICE
Willem Witsenplein 3-4
2596 BK 's-Gravenhage

21 Application no. 8802342

22. Submitted 21st September 1988

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43 Submitted for inspection 17th April 1990

The copy of the description and claim(s) as well as any drawing(s) attached to this sheet, contain changes with regard to the originally submitted documents; the latter can be inspected on request at the Patent Office.

Brief definition: Device for Visual Information Transfer

The invention relates to a device for visual information transfer comprising an image carrier, carrying one or more consecutive still images, means for making the images visible with regard to their surroundings, and operating means working together with these visible-making means to make a certain image visible by way of the visible-making means.

Such a device has been known for a long time and can, in particular, be used for advertising purposes.

In this known device the images are, however, made visible either continuously or with intermediate intervals.

The presentation output of this known device is low however, as the attention-grabbing ability for an observer is low when an observer passes this device at great speed and the distance to the device is quite small. In addition, the consecutive images are often not related to each other.

A device has now been found for transferring visual information of the type named in the introduction, whereby this information can be better and with stronger effect transferred through the great attention-grabbing ability thereof.

The device in accordance with the invention is characterised in that the device also includes a signal-supplying element operating in conjunction with said operating means in order to supply a signal which is related to the relative speed of an observer moving past the image carrier so that from a number of images lying in the direction of movement of the observer, one image is always briefly made visible.

Such a device will draw the attention of the observer as the illusion is formed that moving images are seen or still images with a certain message. In addition, this effect will be all the greater if the moving observer observes the images in a less bright environment.

Preferably, the signal-supplying element consists of speed-measuring means, in particular a speed sensor.

Expediently the frequency of operation of the visible-making means is related to the mutual distance between the images and the speed measured by the speed measuring means.

More particularly the speed-measuring means and the operating means work in such a way that the position of the images made visible appears to the retained to the observer.

In order to strengthen the observer's illusion that moving images, such as a film, are being seen, the separate images which have been made visible are separated from each other. This can take place by placing the images at a distance from one another, but preferably it takes place by invisible images being present between consecutive images to be made visible.

Preferably means are also present to control the image frequency of the images made visible.

It is thus possible to make images visible in turn, separated by invisible images and reversing this visualisation in a following phase.

Expediently the distance between the image made visible is equal to the quotient of the speed of the observer and the image frequency.

In practice, at a certain mutual interval of the images to be made visible, a change in the speed of the observer will cause a proportional change in the image frequency to be used.

When the speed of the observer is known through measurement, the correct image frequency follows from the quotient of the measured speed of the observer and the applied mutual image interval.

In addition, the observer may be in a means of transport, such as a train which may or may not be travelling underground.

In order to avoid that the consecutively made visible images forming a ''distorted'' picture, the time for making the images visible must be smaller than the period time, i.e. 1/image frequency. Preferably this time will only be a small fraction of the period time. In order to prevent a flickering image being perceived, the image frequency must of course be selected to be sufficiently high.

The width of the image made visible is expediently smaller that the mutual image interval. In addition there must always be at least one image in its entirety in the field of vision of the observer. In making images visible in turn, at least two images must be present in their entirety in the observer's field of vision, one image made visible and one not made visible.

It has also been found that the trajectory length required for an information transfer is inversely proportional to the speed of the observer and the message length, including the attention grabber denoted as ''leader'', such a for example, a word or picture trademark. The number of images required for a piece of

information is, however, proportional to the image frequency and the message length of the message, with the exception of the ''leader'' or attention-grabber.

With regard to the time required for an information transfer it is noted that this is equal to the sum of the message length, multiplied by the time which a means of transport in which the observer is located requires to move over its own length.

The invention also relates to a presentation panel for carrying images, suitable for use in a device in accordance with the invention, which is here characterised in that the device is equipped with means for measuring the relative speed of an observer moving along the presentation panel, and means for controlling the image frequency, said means operating in conjunction with means for making images visible.

The means of measuring the relative speed of an observer can comprise sensors, whereby an additional sensor may be present to determine that the entire means of transport has passed the presentation panel with the images.

Making consecutive images visible can then take place in known ways; illumination of the back of the images is preferred here.

The invention also relates to a method of transferring visual information by means of a series of still images, which is characterised here in that information is transferred by making consecutive image briefly visible in the direction of movement of a moving observer which are at a distance from each other which is related to the speed of the observer.

Preferably the images are made visible by illuminating them.

The invention will be described in more detail with the aid of the following example of embodiment and accompanying drawings, wherein:

Fig. 1 schematically shows a device in accordance with the invention

Fig. 2 shows the number of images per second as a function of the speed of the observer at a certain image interval in metres

Fig. 3 schematically shows part of a presentation panel in accordance with the invention at various stages in time

Fig. 1 schematically shows a device for visual information transfer in accordance with the invention, with a partially removed front view. The image carrier carrying images (such as 2, 3) is here provided with three series of images placed on top of each other. This can or course be restricted to just one series or, if required, expanded further.

The images are made visible with lighting means such as lamps 4.

These lighting means are operated by means of an operating element 5, which in turn receives information from a speed sensor 6. This sensor 6 sends a first signal to the operating element 5 after a means of transport, such a train 7, has passed.

EXAMPLE

A device in accordance with the invention for transferring visual information comprising a panel with images is installed along the path of a means of transport, whereby the means of transport travels at a speed of 20 m/s or 72 km/h.. The required image interval

at the chosen image frequency of on average 25 Hz is then 0.8 m for optimum information transfer.

As shown in fig. 2 at a transport speed of, for example, 16 m/s, the image frequency to be applied for the same image interval of 0.8 m must be 20 Hz, or inversely proportionally less in comparison with above.

Fig. 3 schematically shows part of a presentation panel in accordance with the invention, provided with a series of images, whereby the images are made visible in turn. The message height is indicated with H here.

More particularly, fig. 3a show the status at time t_o, while figs. 3b and 3c respectively show the situation 1 and 2 periods later.

CLAIMS

1. Device for transferring visual information comprising one or more images carriers carrying consecutive still images, means for making the images visible with regard to their surroundings, and operating means working in conjunction with these visible-making means in order to make a certain image visible by way of the visible-making means, characterised in that the device is also comprises a signal-sending element working together with the operating means for sending a signal that is related to the relative speed of an observer moving along the image carrier in order to continually make one image of a number of consecutive images lying in the direction of the passing observer briefly visible.

2. Device according to claim 1, characterised in that the signal-sending element comprises speed-measuring means, in particular a speed sensor.

3. Device according to claim 1 or 2, characterised in that the frequency of operation of the visible-making means is related to the mutual distance between the images and the speed measured by the speed measuring means.

4. Device according to claims 1-3, characterised in that the speed-measuring means and the operating means work together in such a way that the position of the image made visible appears to remain the same with regard to the observer.

5. Device according to claims 1-4, characterised in that the separate images made visible are separated from each other, more particularly by images which are not made visible.

6. Device according to claims 1-5, characterised in that

there are also means present to control the image frequency of the images made visible.

7. Device according to claim 1, characterised in that the distance between the images made visible is equal to the quotient of the speed of the observer and the image frequency.

8. Device according to claims 1-7, characterised in that the time for making an image visible is less than the period time, preferably only a fraction thereof.

9. Device according to claims 1-8, characterised in that the width of the image made visible is smaller than the interval between the images.

10. Presentation panel for carrying images, suitable for use in a device in accordance with claims 1-9, characterised in that the device is provided with means for measuring the relative speed of an observer moving along the presentation panel, and means of controlling the image frequency, said means working together with means for making images visible.

11. Method of transferring visual information by means of a series of still images, characterised in that the information is transferred by briefly making consecutive images visible in the direction of movement of a moving observer which are at a distance from each other which is related to the speed of the observer.

12. Method according to claim 11, characterised in that the images are made visible by illuminating them.

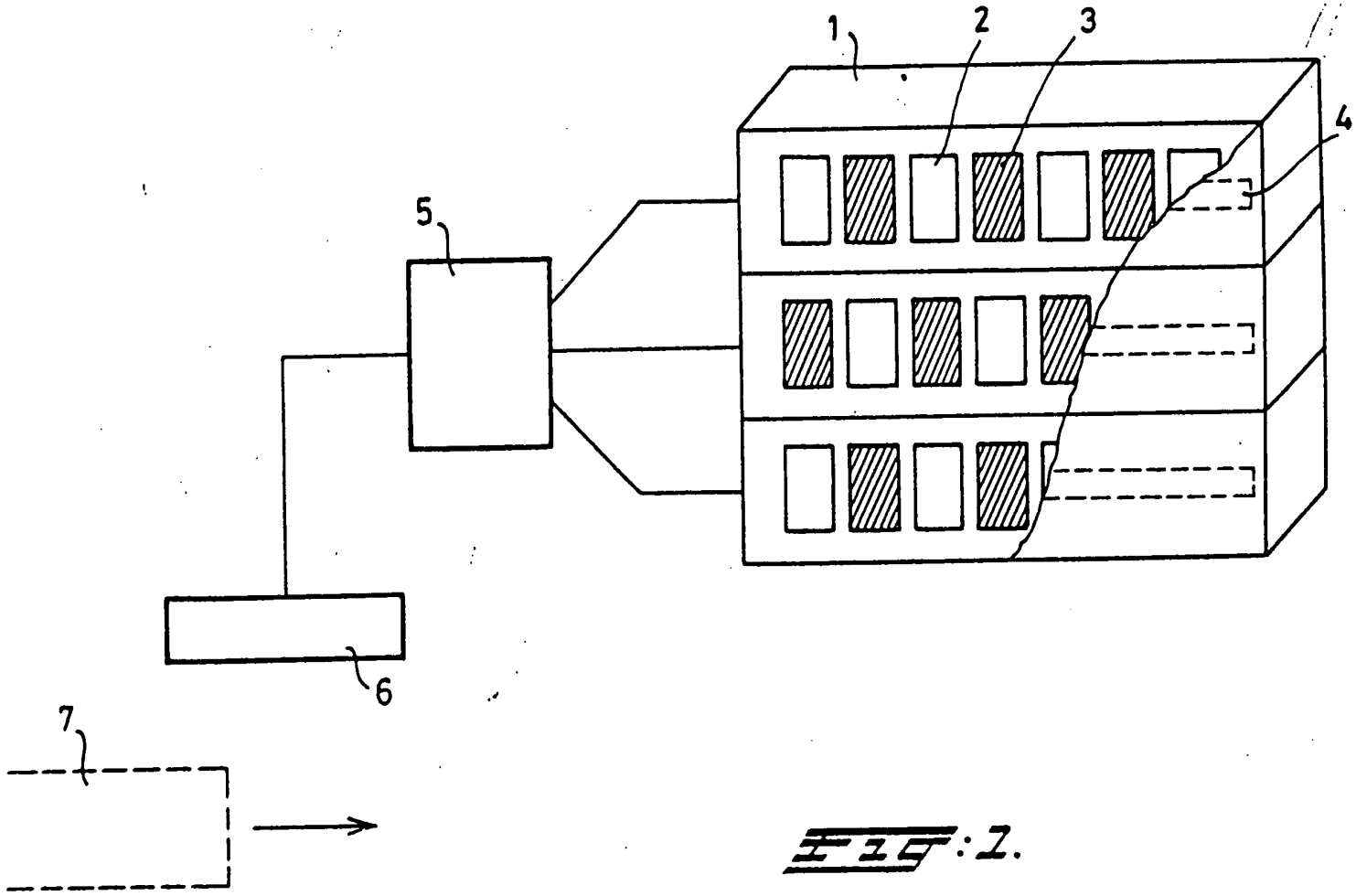

Fig: 1.

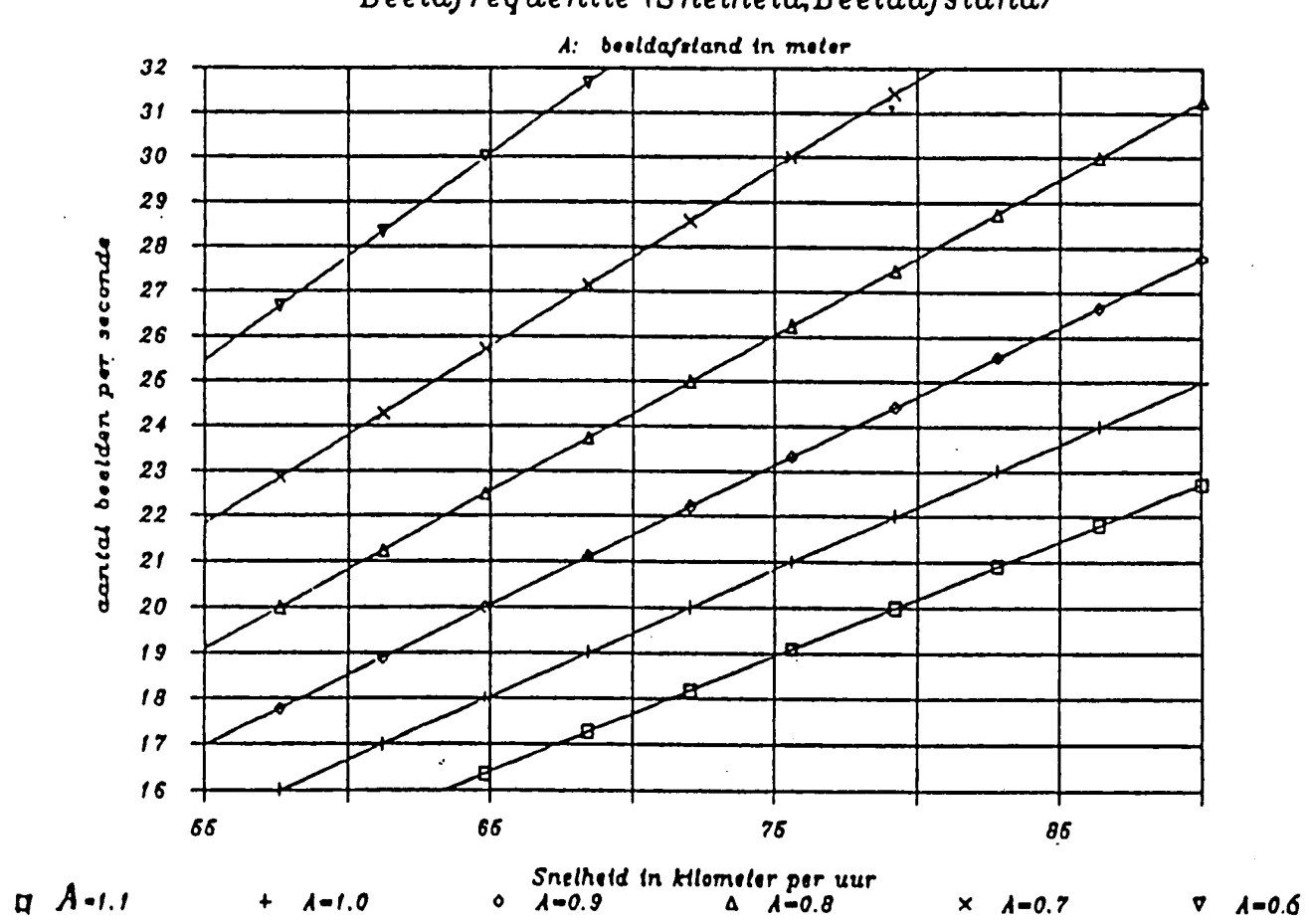

Fig: 2.

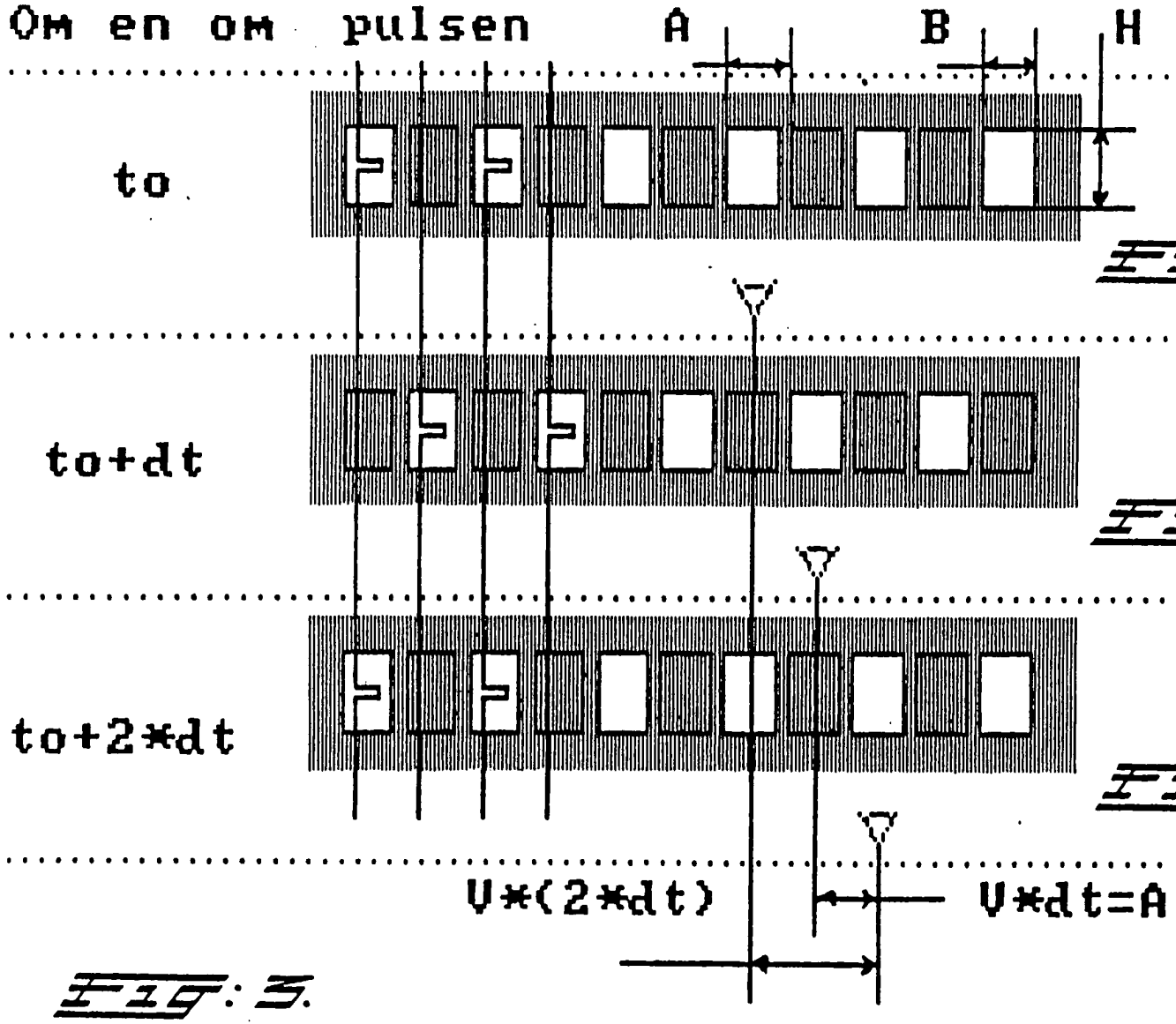

Fig: 3a.

Fig: 3b.

Fig: 3c.

Fig: 3.